

Atty. Dkt. No. 023829-0131 (CGL01/0189US1A)

**REMARKS**

Claims 1-18, 20-30 and 35-45 have been cancelled, and new claims 46-66 have been added. Support for the new claims can be found in the original specification and claims. Consequently, no new matter is added by this Amendment.

Applicant notes that the claims as now amended recite that the isohexane solution "consists essentially of" rather than "comprises" as set forth in earlier versions of the claims. The term of art "consisting essentially of" limits a composition (in this case the recited isohexane solvent) to explicitly claimed components (in this case methylpentane and dimethylbutane) plus additional components that do not materially affect the basic characteristics of the composition (in this case do not cause such isohexane solvent to have a wet dew point outside that which is recited in the claims).

Applicant also notes that the claims have been amended to delete the language: "n-hexane in an amount of less than about 1.0 wt. %" and the language "hydrocarbons having less than 6 carbon atoms in an amount no more than about 0.1 wt.%" The language was deleted as redundant because the specification, in the sentence bridging pages 5 and 6, defines the term "isohexane solvent" as "a hydrocarbon solvent that includes at least 99 wt. % saturated aliphatic hydrocarbons having 6 carbon atoms and less than 1 wt.% n-hexane." Consequently, the deleted language was unnecessary, only making explicit what was already implicit in the term "isohexane solvent" as used in the claims.

**Response to 35 U.S.C. § 103(a) Rejection**

Claims 1-8, 20-30, and 35-45 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Crawford et al. (U.S. Patent No. 2,596,010). This rejection has been mooted by canceling the affected claims. The undersigned therefore respectfully requests this rejection be withdrawn.

The newly pending claims are patentable over Crawford because the cited reference does not include all elements of the claim. The new claims recite "using an isohexane solvent". As indicated above, the term "isohexane solvent" as used in the claims means a solvent including at least 99 wt. % saturated aliphatic

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hydrocarbons having 6 carbon atoms. The Crawford composition includes 2.7 % by volume (equivalent to about 3.1 % by weight) cyclopentane, which is a 5-carbon hydrocarbon and consequently can comprise no more than about 97% by weight saturated aliphatic hydrocarbons having 6 carbon atoms. For at least the reason that the Crawford solvent lacks at least 99% by weight 6-carbon hydrocarbons, Crawford does not anticipate the pending claims.

Crawford also does not render the pending claims obvious. In order to make a *prima facie* case of obviousness, the reference(s) relied upon must include all elements of the claim. Applicant respectfully submits that Crawford does not teach or suggest all elements of the claim, and therefore that no *prima facie* case of obviousness can be made for at least the following two reasons. First, As discussed above in connection with the discussion on anticipation, the Crawford solvent does not include "an isohexane solvent" as defined by the claims (i.e., a solvent composition including at least 99 wt. % saturated aliphatic hydrocarbons having 6 carbon atoms).

Second, Crawford neither teaches nor suggests an isohexane solvent having the recited wet dew point characteristic. The Examiner has asserted that because "the Crawford isohexane solvent is *similar* to the claimed solvent . . . [i]t would be expected that the Crawford solvent would have the wet dew point as claimed." Applicant respectfully submits that this assertion is directly contrary to the facts before the Examiner. Specifically, the specification illustrates Solvent 1, which falls outside of the claimed wet dew point despite being comprised of 99.79% by weight of dimethylbutane and methylpentane and only very minor amounts of additional compounds (0.16% by weight n-pentane, and 0.05% by weight n-hexane). The Crawford composition is even more dissimilar from the inventive compositions than is Solvent 1. Not only does the Crawford composition comprise only about 97% by weight saturated aliphatic hydrocarbons having 6 carbons, but it also includes a greater fraction of components other than methylpentane and dimethylbutane than does Solvent 1 - Crawford suggests about 3.1% by weight cyclopentane and 6.6% by weight n-hexane, compared to 0.16% and 0.05%, respectively, in Solvent 1. Consequently, the Examiner lacks basis to assert that the Crawford composition

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would be expected to have the claimed wet dew point. For at least these reasons, Crawford cannot be used to support a *prima facie* case of obviousness.

Assuming, *arguendo*, that a *prima facie* case of obviousness could be appropriately made, such case can be rebutted at least by unexpected results. As both the specification and Declaration Under 37 CFR § 1.132 (submitted with the Amendment dated May 23, 2005, which the Applicant requests that the Examiner now enter and consider) relate, oil-extraction facilities traditionally used n-hexane as a solvent. Due to environmental concerns, facilities searched for alternatives to n-hexane. Prior to the inventive solvents, such alternatives were economically undesirable. Specifically, approximately 530% greater cooling capacity was required to condense those alternative solvents as compared to n-hexane, resulting in substantially increased costs.

Although such earlier alternative solvents may ostensibly appear similar to the inventive solvents (e.g., they include 6-carbon hydrocarbons), those earlier alternative solvents are in fact quite different than the inventive solvents. Specifically, as shown for example in Table 1 of the Declaration, the earlier alternatives lacked the claimed wet dew point characteristic. The present inventors surprisingly found that the that small changes in the amount of the components comprising the alternative solvents drastically impact wet dew point and that the specifically recited wet dew point characteristic significantly improves performance of n-hexane solvent substitutes, decreasing costs associated with running oil-extraction plants. See, e.g., Table 1 of the Declaration.

Applicants believe that the present application is now in condition for allowance. Favorable consideration of the application as amended is respectfully requested. The Examiner is invited to contact the undersigned by phone if it is believed that this would advance prosecution of this matter.

Respectfully submitted,

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